AMENDMENTS TO THE CLAIMS

1.   (Original)   A text processing method characterized by comprising the steps of:

generating a probability model in which information indicating each word of a text document belongs to a topic is made to correspond to a latent variable and each word of the text document is made to correspond to an observable variable;

outputting an initial value of a model parameter which defines the generated probability model;

estimating a model parameter corresponding to a text document as a processing target on the basis of the output initial value of the model parameter and the text document; and

segmenting the text document as the processing target for each topic on the basis of the estimated model parameter.

2.   (Original)   A text processing method according to claim 1, characterized in that

the step of generating a probability model comprises the step of generating a plurality of probability models,

the step of outputting an initial value of the model parameter comprises the step of outputting an initial value of a model parameter for each of the plurality of probability models,

the step of estimating a model parameter comprises the step of estimating a model parameter for each of the plurality of probability models, and

the method further comprises the step of selecting a probability model, from the plurality of probability models, which is used to perform processing in the step of segmenting the text document, on the basis of the plurality of estimated model parameters.

3.   (Original)   A text processing method according to claim 1, characterized in that a probability model is a hidden Markov model.

4.   (Original)   A text processing method according to claim 3, characterized in that the hidden Markov model has a unidirectional structure.

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5.   (Original)   A text processing method according to claim 3, characterized in the hidden Markov model is of a discrete output type.

6.   (Original)   A text processing method according to claim 1, characterized in that the step of estimating a model parameter comprises the step of estimating a model parameter by using one of maximum likelihood estimation and maximum a posteriori estimation.

7.   (Original)   A text processing method according to claim 1, characterized in that

        the step of outputting an initial value of a model parameter comprises the step of hypothesizing a distribution using the model parameter as a probability variable, and outputting an initial value of a hyper parameter defining the distribution, and

        the step of estimating a model parameter comprises the step of estimating a hyper parameter corresponding to a text document as a processing target on the basis of the output initial value of the hyper parameter and the text document.

8.   (Original)   A text processing method according to claim 7, characterized in that the step of estimating a hyper parameter comprises the step of estimating a hyper parameter by using Bayes estimation.

9.   (Original)   A text processing method according to claim 2, characterized in that the step of selecting a probability model comprises the step of selecting a probability model by using one of an Akaike's information criterion, a minimum description length criterion, and a Bayes posteriori probability.

10.   (Previously Presented)   A computer readable storage medium which stores a computer executable program that when executed by a computer processor causes a computer to execute the steps of:

        generating a probability model in which information indicating each word of a text document belongs to a topic is made to correspond to a latent variable and each word of the text document is made to correspond to an observable variable;

        outputting an initial value of a model parameter which defines the generated probability model;

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estimating a model parameter corresponding to a text document as a processing target on the basis of the output initial value of the model parameter and the text document; and

segmenting the text document as the processing target for each topic on the basis of the estimated model parameter.

11.   (Original)   A recording medium recording a program for causing a computer to execute the steps of:

generating a probability model in which information indicating each word of a text document belongs to a topic is made to correspond to a latent variable and each word of the text document is made to correspond to an observable variable;

outputting an initial value of a model parameter which defines the generated probability model;

estimating a model parameter corresponding to a text document as a processing target on the basis of the output initial value of the model parameter and the text document; and

segmenting the text document as the processing target for each topic on the basis of the estimated model parameter.

12.   (Original)   A text processing device characterized by comprising:

temporary model generating means for generating a probability model in which information indicating each word of a text document belongs to a topic is made to correspond to a latent variable and each word of the text document is made to correspond to an observable variable;

model parameter initializing means for outputting an initial value of a model parameter which defines the probability model generated by said temporary model generating means;

model parameter estimating means for estimating a model parameter corresponding to a text document as a processing target on the basis of the initial value of the model parameter output from said model parameter initializing means and the text document; and

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text segmentation result output means for segmenting the text document as the processing target for each topic on the basis of the model parameter estimated by said model parameter estimating means.

13.   (Original)   A text processing device according to claim 12, characterized in that

said temporary model generating means comprises means for generating a plurality of probability models,

said model parameter initializing means comprises means for outputting an initial value of a model parameter for each of the plurality of probability models,

said model parameter estimating means comprises means for estimating a model parameter for each of the plurality of probability models, and

the device further comprises model selecting means for selecting a probability model, from the plurality of probability models, which is used to cause said text segmentation result output means to perform processing associated with the probability model, on the basis of the plurality of model parameters estimated by said model parameter estimating means.

14.   (Original)   A text processing device according to claim 12, characterized in that a probability model is a hidden Markov model.

15.   (Original)   A text processing device according to claim 14, characterized in that the hidden Markov model has a unidirectional structure.

16.   (Original)   A text processing device according to claim 14, characterized in the hidden Markov model is of a discrete output type.

17.   (Original)   A text processing device according to claim 12, characterized in that said model parameter estimating means comprises means for estimating a model parameter by using one of maximum likelihood estimation and maximum a posteriori estimation.

18.   (Original)   A text processing device according to claim 12, characterized in that

said model parameter initializing means comprises means for hypothesizing a distribution using the model parameter as a probability variable, and outputting an initial value of a hyper parameter defining the distribution, and

said model parameter estimating means comprises means for estimating a hyper parameter corresponding to a text document as a processing target on the basis of the output initial value of the hyper parameter and the text document.

19.   (Original)   A text processing device according to claim 18, characterized in that said model parameter estimating means comprises means for estimating a hyper parameter by using Bayes estimation.

20.   (Original)   A text processing device according to claim 13, characterized in that said model selecting means comprises means for selecting a probability model by using one of an Akaike's information criterion, a minimum description length criterion, and a Bayes posteriori probability.

21.   (Currently Amended) A text-processing method for segmenting a text document for each topic, comprising steps of:

estimating a parameter of a probability model so that the probability of the text document being output is maximized or locally maximized, wherein the structure of the probability model is defined by latent variables representing which word of the text document belongs to one of a plurality of topics, and the model is fully defined by a model parameter set which is comprised of word output probabilities and topic transition probabilities said probability model being on the one hand determined for each latent variable representing which word of the text document belongs to what number of topics and on the other hand defined by a probability of the word being output and a probability of the topic transitioning; and

segmenting the text document for each topic by estimating the value of the latent variable for each word on the basis of the parameter of the probability model estimated above.

22.   (Currently Amended) A recording medium recording a program for causing a computer to execute steps of:

estimating a parameter of a probability model so that the probability of a text document being output is maximized or locally maximized, wherein the structure of the probability model is defined by latent variables representing which word of the text document belongs to one of a plurality of topics, and the model is fully defined by a model parameter set which is comprised of word output probabilities and topic transition probabilities said probability model being on the one hand determined for each latent variable representing which word of the text document belongs to what number of topics and on the other hand defined by a probability of .the word being output and a probability of the topic transitioning; and

segmenting the text document for each topic by estimating the value of the latent variable for each word on the basis of the parameter of the probability model estimated above.

23.　　(Currently Amended) A text-processing device which segments a text document for each topic, comprising:

model parameter estimating means for estimating a parameter of a probability model so that the probability of the text document being output is maximized or locally maximized, wherein the structure of the probability model is defined by latent variables representing which word of the text document belongs to one of a plurality of topics, and the model is fully defined by a model parameter set which is comprised of word output probabilities and topic transition probabilities said probability model being on the one hand determined for each latent variable representing which word of the text document belongs to what number of topics and on the other hand defined by a probability of the word being output and a probability of the topic transitioning; and

text segmentation result output means for segmenting the text document for each topic by estimating the value of the latent variable for each word on the basis of the parameter of the probability model estimated by said model parameter estimating means.